UP THE CREEK: ATV PROTECTIVE GEAR

KNOWLEDGE

VOL 6 SEPTEMBER 2012

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

WINTERIZING

DON'T LET FROST BITE YOUR EQUIPMENT

TIE-DOWN

+

- BROWNOUT LANDINGS
- RECREATIONAL HIKING
- SEAT BELTS



DVE OPERATIONS

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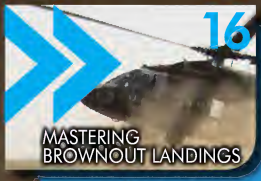
OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

LEADERS SOLDIERS CIVILIANS FAMILIES

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ARMY SAFE IS ARMY STRONG

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Mission statement: The United States Army Combat Readiness/Safety Center (USACR/Safety Center) supports our Army by collecting, analyzing and communicating actionable information to assist Leaders, Soldiers, Families and Civilians in preserving/protecting our Army's combat resources.

We welcome your feedback. Please email comments to **safe.knowledge@conus.army.mil**.

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know the signs

KNOW WHAT'S RIGHT

DO WHAT'S RIGHT

FROM THE DASAF



Many of you are familiar with our semi-annual seasonal safety campaigns, which have been a staple of safety programs across the Army for several years. But in our continuing efforts to provide you the timeliest and most relevant information available, we've decided to switch to a format that coincides with the true change in seasons. On Sept. 4, we will launch the Army Safe Autumn campaign at https://safety.army.mil, followed by separate campaigns for winter, spring and summer at appropriately timed intervals. Risk and hazards change with every season, so we hope this format helps you build even more proactive accident prevention programs.

As always, we welcome your feedback — please let me know what you think of this new format and how we can serve you better. Army Safe is Army Strong!

TIMOTHY J. EDENS
Brigadier General, USA
Director of Army Safety

I just passed my one-year anniversary here at the USACR/Safety Center, and while I thought I knew a little about safety before, I feel I can finally speak with some authority on the subject! It's been a busy 12 months, and one of the things that's become obvious to me during my various travels is just how many Soldiers we have in home station now. With combat operations in Iraq over and the drawdown continuing in Afghanistan, our installations have come alive with the sounds of early morning cadences and Families enjoying time together. It's great to have our Soldiers home, but we should also be aware that they now face more off-duty risk than perhaps ever before.

Anyone who's been around the Army any length of time knows the cyclic nature of our business, and accidents are no exception. Looking back at more than 30 years of data, accidental fatalities have declined, held steady, jumped unexpectedly, fallen again, stabilized and then increased before repeating the cycle time after time. This proves to me that safety, just like doctrine or tactics, is one of those things you never consider "done." Risk is constantly changing, and we have to evolve along with it.

So here we are in September, prepared to wrap up fiscal 2012 with one of the lowest accidental fatality rates in recent



> "**LEADING** Soldiers is never simple, but we **DON'T HAVE TO OUTSMART** or manipulate them into showing us their high-risk behavior. It's often **RIGHT IN FRONT OF US ALL ALONG.**"



AKING THE CYCLE

memory. This is an ongoing trend that started in fiscal 2008 and, for the first time ever in our Army's history, we've actually reduced accidental fatalities during sustained combat operations. Great news, no doubt — but what can we do to ensure the cycle of accidental loss doesn't surprise us again, especially now that most of our force is transitioning back to the training environment?

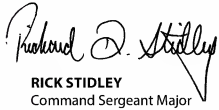
I believe the answer to that question lies in the very foundation of our Army: training, discipline and standards, on the part of both leaders and Soldiers. There is absolutely no distinction between a leader and his or her subordinates regarding these three critical issues; we're all accountable to the Army 24/7, a fact that must be enforced to the lowest levels in our formations. To do so, however, both senior and junior leaders must show more than a passing concern for their Soldiers off duty.

That means leaders have to know their Soldiers, their likes and dislikes, their Family backgrounds, the things that make that Soldier uniquely them. No one expects our leaders to play the part of a psychologist, but the signs of high-risk behavior can become fairly obvious when you get to know a person. It's reasonable to assume a Soldier who likes to push the speed limit in a tactical vehicle might take the same chances in their own vehicle off duty, or the one who thinks personal protective equipment is optional on the job feels the same way on their motorcycle. Leading Soldiers is never simple, but we don't have to outsmart or manipulate them into showing us their high-risk behavior. It's often right in front of us all along.

This premise is the focus of the USACR/Safety Center's newest campaign, "Know the Signs." Beginning Sept. 4 and running through fiscal 2014, multimedia materials, including posters, videos, fact sheets and feature articles, will be released at least quarterly at https://safety.army.mil. Each product is designed to heighten awareness of potential risk factors and help leaders and Soldiers at all levels address the risk before tragedy strikes. This great initiative is sure to resonate with your teams, so please check our website often and let us know how you're using the tools, along with your suggestions for future iterations.

The sight of a thriving installation should fill us all with pride, knowing where these Soldiers have been and all they've been through to make it home. Now we have to make them understand the game isn't over; indiscipline and high-risk behavior are formidable and stealthy, but not unbeatable, opponents. Know the signs, know what right looks like and do what's right — those are words we all can live by!

Army Safe is Army Strong!



RICK STIDLEY
Command Sergeant Major
U.S. Army Combat
Readiness/Safety Center

DVE Safe Operations

MAJ. DALE R. BOND JR.
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Surviving in a degraded visual environment is one of Army aviation's top priorities. Over the last 10 years, DVE conditions have been the leading contributor of deaths and loss of aircraft. In addition, DVE is a flight safety issue in peacetime training as well as in overseas contingency operations. Safe operations in DVE are as important to the aircraft's survivability as protecting it from enemy weapons systems.

A DVE is one where reduced visibility affects situational awareness, making it harder to safely control the aircraft compared to flying in visual meteorological conditions. Pilots often experience DVE during flight conditions of partial or no visibility due to fog, heavy rain or dense obscurants such as fine sand, dust, smoke, blowing debris or snow. These conditions are most critical to pilots flying rotary-wing aircraft operating visually at low altitudes, such as during takeoff, hover, terrain flight and landing. Problems caused by the loss of situational awareness to DVE often result in pilots maneuvering their aircraft into unusual attitudes or experiencing excessive drift, rollover and/or contact with adjacent aircraft or obstacles.

Vulnerabilities and Gaps

Operating in DVE is primarily a rotary-wing gap. Army aviation rotary-wing aircraft currently have extremely limited capability to maintain aircraft/environment situational awareness and control in DVE. No true capability to see through obscurants and maintain visual situational awareness exists at this time. Existing flight handling qualities, essential for maintaining adequate control as visual cues degrade, range from stabilization assists to advanced flight control systems such as the Digital Advanced/Automated Flight Control Systems.



DVE STRATEGY

Sensors
- Sensor Options:
 - RADAR
 - IR
 - MWIR
 - LIDAR
 - LADAR
- Sensor Integration

Flight Handling
- Improved Handling Qualities (Autopilot/ hold functions)
- Ground Taxi
- Integrated Sensor/ database inputs
- Takeoff/landing
- A/C Performance Models
- Hi-Res Radar Altimeter
- Hi-Fid Navigation EGI

Displays, Symbology, Cueing
- DVE Symbology and Visual/Aural Cueing
- Displays:
 - MDM
 - HUD
 - HMD
- Tactile Cueing (TSAS)
- Panel Mounted MFD

Synthetic Backbone
- Sensor Fusion
- Synthetic Vision
- Improved Data Storage/Processing
- Geo-Position Accuracy
- Maps/Data:
 - DIGMAPS
 - VVOD
 - DAFIF
 - DTED

Evolutionary Strategy

Initial Capabilities
Single-ship
Survive the Environment

Future Capabilities
Multi-ship
Exploit the Environment



Displays and symbology currently fall short in providing heads-up/ -out capability and in providing symbology tailored to operating in DVE. In addition, there is almost no integration across the DVE "solution set" (sensors, flight controls, displays) in any fleet.

DVE Concept

Simply put, the initial focus is on individual aircraft surviving the environment. In the future, the focus will include allowing multiple aircraft to exploit the environment. The first priority is to give pilots the situational awareness necessary to operate safely in brownout/ whiteout conditions. This is especially important during takeoffs, landings and hovering. However, the ultimate goal is for pilots to be able to operate in DVE in all mission profiles and phases of flight, even to the point of using DVE to gain a tactical advantage.

Future developments will enable aircrews to conduct a full range of operations in DVE, in both single- and multi-aircraft roles. Program goals include improvements in the accuracy of the digital database and obstacle overlay, full 360-degree spherical collision avoidance capability and the integration of fused imagery



> **"FUTURE DEVELOPMENTS** will enable aircrews to **CONDUCT** a full range of **OPERATIONS IN DVE**, in both single- and multi-aircraft roles."

with superimposed symbology on digital instrument panels. Another goal is to include displays allowing heads-up/-out operations. "Low-hanging fruit" for heads-up/-out options include helmet-mounted displays for both rated and non-rated crewmembers.

Future DVE developments will contain a fully integrated capability to digitally "offboard" mission-essential terrain and hazard information through platform communication systems. As terrain and obstacles are detected, aircraft systems will communicate this information in real time via the network to automatically update the common operational picture.

Sensor Solution Technologies. While no "silver bullet" sensor solution exists to penetrate all obscurants effectively in every flight mode, industry is approaching the DVE problem set with a variety of technologies. The final solution may be a mixture of sensors. Current technologies being evaluated include, but are not limited to, Millimeter Wave Radar, Long Wave Infrared, Medium Wave Infrared, Light Intensification Detection and Ranging, and Laser Detection and Ranging.

Overall System Solution Approach. The Army will soon begin analyzing the alternatives to gain a better understanding of what its future DVE capabilities solution will look like. Using a "three-legged stool" approach to DVE of sensors, flight handling and displays, if one leg brings significant capability to the problem set, a majority of the effort may be focused on it. The other legs will receive attention directly proportional to their value in solving the problem set.

Regardless of the "golden leg" for solving the initial capabilities gap, a sensor will be required to solve the future capabilities gap. This notion lends credence to getting the right sensor up front instead of initially building a marginal sensor and then fielding a newer one in the future. The sensor that provides the initial capabilities will likely be able to provide the future capabilities after applying minor changes.

Quick-Reaction Capability. In the interim, the Product Office for Aviation Networks and Mission Planning is filling an operational needs statement from Afghanistan in response to the initial problems with brownout during takeoffs and landings. Five Sierra Nevada Corporation Helicopter Autonomous Landing System units are being developed and will be fielded on deploying or deployed UH-60Ls in theater in fiscal 2014.

For further information on the validation requirements of DVE, please consult the Aircraft Survivability Initial Capabilities Document (distribution restricted to Department of Defense and U.S. DoD contractors only). It can be accessed via the Knowledge Management Decision Support tool via SIPRNET or by contacting TRADOC Program Office-Aviation Brigades.«

I'd set the cruise control on 70 mph that evening as I enjoyed the long drive home from leave. I was listening to the radio, resting my foot on the gas pedal to give me an added 5 mph. You know how it is, anything to whittle a little more time off the drive.

Cruisin' for a Bruisin'

CHIEF WARRANT OFFICER 3 GABRIEL HORNEY
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Fort Rucker, Ala.

I noticed rain drops lightly hitting the windshield, but they soon came down in torrents. However, I wasn't worried because I was an experienced driver and had driven this route many times. Before heading out, I'd checked the tires, headlights and wipers and even treated the windshield with Rain-X. I owned a large rear-wheel drive car — one of the safest types of vehicles, according to the Travel Risk Planning System report I filled out before leaving.

Spotting a large puddle ahead, I got off the gas to slow down. In the past, that normally worked, but this time was different. My car began slowly fishtailing — first in one direction and then the other. I reacted by turning into the skids, but things only got worse. I was fishtailing so badly I could see the headlights of the vehicles behind me through my windshield.



> **"CRUISE CONTROL**, a welcome convenience for long trips, **CAN POSE** its own **RISKS** when the **WEATHER TURNS NASTY."**

Instead of slowing down, I heard my engine speeding up, so I tapped the brakes. Fortunately, I was able to straighten out and pull over to the shoulder. I nearly had a heart attack sitting there while waiting to calm down. I'd barely avoided totaling my vehicle. If the cars trailing me had been any closer, there'd have been mangled metal on the road — or maybe worse.

I tried to figure out why this happened. I'd prepared for the trip properly, was experienced, took the appropriate steps and even prepared for the weather. It took me a while, but I finally realized what occurred. Although I'd taken my foot off the gas to slow down, the cruise control was still engaged at 70 mph and providing power to the rear wheels. When I hit the puddle, my tires immediately began to hydroplane as the engine actually increased power to try to keep me at 70 mph. That is what sent me out of control. It never occurred to me that would happen.

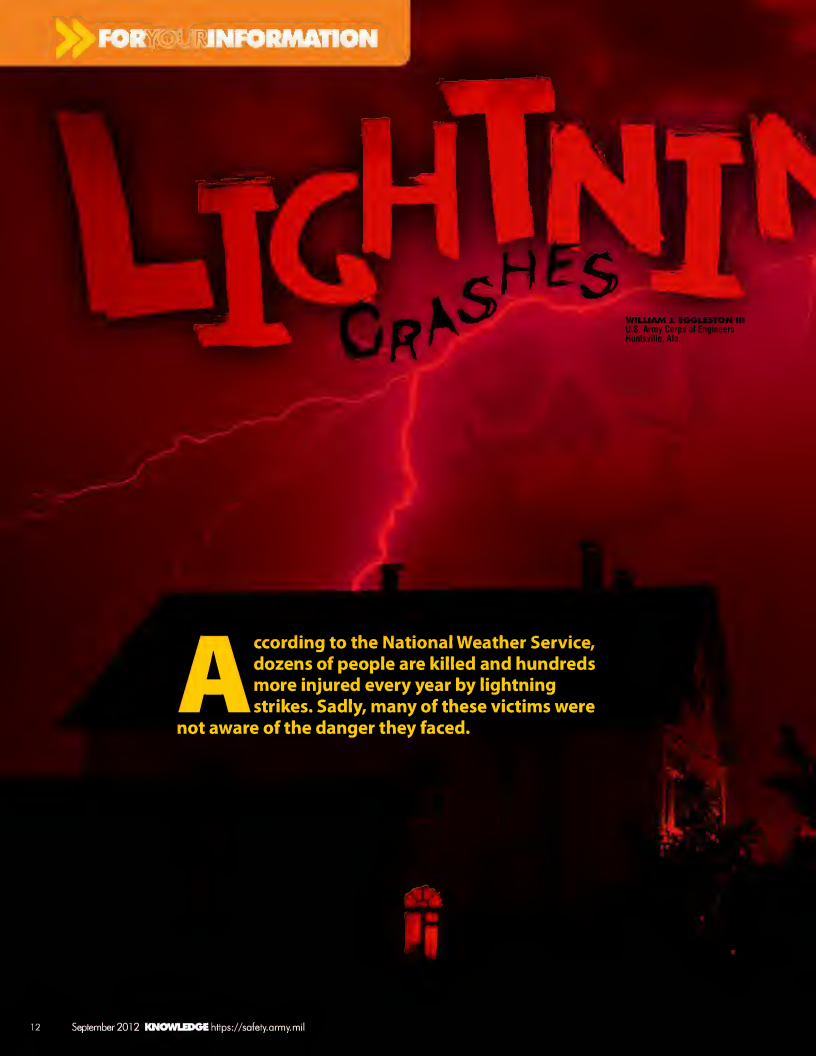
When I looked up this online, I found the following information from the Insurance Corporation of British Columbia: "The only way to stop wheels from spinning and maintain control is to immediately reduce power. An activated cruise control system applies continuous power, keeping the wheels spinning. By the time you disengage the cruise control it may be too late — you may have already lost control."

So what can you do when you're driving on wet roads? The National Safety Commission recommends you manually disengage your cruise control the moment it starts to rain or you encounter wet road conditions. The sooner you do it the better because even tapping the brakes to turn off your cruise control can send you skidding on a wet road.

Staying safe on wet roads requires being especially alert to the added risks involved. Cruise control, a welcome convenience for long trips, can pose its own risks when the weather turns nasty. To keep your drive from turning nasty, stay alert to stay alive.«

LIGHTNIN CRASHES

WILLIAM J. EGGLESTON III
U.S. Army Corps of Engineers
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According to the National Weather Service, dozens of people are killed and hundreds more injured every year by lightning strikes. Sadly, many of these victims were not aware of the danger they faced.

Lightning is the result of the build up and discharge of electrical energy. The two most common types of lightning are cloud-to-ground and intra-cloud (sometimes called cloud-to-cloud). Cloud-to-ground lightning is the most dangerous form and occurs during the dissipating stage of a thunderstorm. Intra-cloud lightning is the most common and occurs between oppositely charged centers within the same cloud.

The first step to reduce the risk of being struck by lightning is education. There are several ways to prepare for a thunderstorm: keep a watchful eye to the sky, listen to a National Oceanic and Atmospheric Administration weather radio or local radio or television for current forecasts, and watch for lightning flashes. You can tell how close you are to a lightning strike by counting the seconds between seeing the flash and hearing thunder. For every five seconds you count, the lighting is one mile away. If you can see a flash and instantly hear thunder, the lightning strike was very close.

The NWS recommends incorporating the 30/30 Rule into lightning safety plans. The 30/30 rule states you should seek shelter immediately if the time between the lightning flash and thunderclap is 30 seconds or less. And because most lightning strikes occur either very early or very late in a storm's life, you should wait at least 30 minutes after the last thunderclap before leaving your shelter.

The safest location during a thunderstorm is inside a large enclosed structure, preferably with electrical/telephone wiring and plumbing (to provide a safe pathway to the ground for any current). However, remember to stay away from doors, windows, metal fittings and devices connected to the electricity supply. In addition, an enclosed metal vehicle (such as a car, van or bus) is a safe location if an enclosed structure isn't available.

If you are out in the open and a building or vehicle isn't nearby, seek shelter under the smallest tree in a group of several large trees, but never under a single tree. Stay at least six feet away from the trunk to minimize the risk of a side strike. If you're caught in an open area without trees or other shelter, assume the lightning crouch: squat down on the balls of your

TEST YOUR LIGHTNING KNOWLEDGE WITH THIS SHORT QUIZ FROM WEATHER.COM:

- **Lightning always strikes the tallest object.**
 False. Lightning strikes the best conductor on the ground, not necessarily the tallest object. In some cases, the best conductor might be a human being.
- **A car's rubber tires give protection from lightning.**
 False. Actually, the car itself is very well insulated and offers more protection than being outside in the storm. Of course, the exception to this is a convertible, which provides virtually no protection.
- **Lightning never strikes the same place twice.**
 False. Tell that one to the Empire State Building, which is struck by lightning many times every year.

feet as a baseball catcher would (only make sure your heels are touching together) and place your hands over your ears. Wait out the storm in this position; never lie flat on the ground! Don't forget to remove all metallic objects from your person before assuming the lightning crouch position.

An individual ultimately must take responsibility for his or her own safety and should take appropriate action when threatened by lightning. Avoid unnecessary exposure to the lightning during thunderstorm activity and follow safety recommendations to reduce the overall number of lightning casualties. A weather radio and the use of lightning detection data in conjunction with an action plan are prudent components of a lightning warning policy, especially when larger groups and/or longer evacuation times are involved.

The seemingly random nature of thunderstorms cannot guarantee an individual absolute protection from lightning strikes. However, being aware of and following proven lightning safety guidelines can greatly reduce the risk of injury or death.

> "The **FIRST** step to **REDUCE THE RISK** of being **STRUCK** by lightning is **EDUCATION.**"

DID YOU KNOW?

Every year, people are killed or seriously injured by severe thunderstorms despite advance warnings. The following information provided by the Red Cross, combined with timely thunderstorm watches and warnings about severe weather, may help save lives. During thunderstorms, always remember to:

- **Listen to local news or a NOAA weather radio for emergency updates. Watch for signs of a storm such as darkening skies, lightning flashes or increasing wind.**
- **Postpone outdoor activities if thunderstorms are likely to occur. Many people struck by lightning are not in the area where rain is occurring.**
- **If a severe thunderstorm warning is issued, take shelter in a substantial building or in a vehicle with the windows closed. Get out of mobile homes that can blow over in high winds.**
- **If you can hear thunder, you are close enough to be in danger from lightning. If thunder roars, go indoors. The National Weather Service recommends staying inside for at least 30 minutes after the last thunderclap.**
- **Avoid electrical equipment and corded telephones. Use battery-powered TVs and radios instead.**
- **Shutter windows and close outside doors securely. Keep away from windows.**
- **Do not take a bath, shower or use plumbing.**
- **If you are driving, try to safely exit the roadway and park. Stay in the vehicle and turn on the emergency flashers until the heavy rain ends. Avoid touching metal or other surfaces that conduct electricity inside and outside the vehicle.**
- **If you are outside and cannot reach a safe building, avoid high ground; water; tall, isolated trees; and metal objects such as fences or bleachers. Picnic shelters, dugouts and sheds are not safe.**
- **For more information on how to prepare before a thunderstorm and what to do afterward, visit www.redcross.org.**



Family engagement kit

On the home front, a Soldier's "battle buddy" is often his or her Family. Check out the new Family Engagement Kit to learn how you can look out for the safety of your Soldier. The kit features a variety of tools, including videos, real-life stories, resources and tips to keep your Soldier safe.

https://safety.army.mil

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Mastering BROWNOUT LANDINGS

RETIRED CHIEF WARRANT OFFICER 5 DENNIS MCINTIRE
Fort Worth, Texas

Helicopters today conduct operations in environments and at tempos far different from what was envisioned nearly 30 years ago. Brownout was not an issue while patrolling the East German border. It has only been in recent years, with the operations in Iraq and Afghanistan, that this problem has become so pronounced. *(Note: The techniques discussed in this article may also be applied to whiteout landings.)*



Dust landings will challenge even the best of aviators. Not only can the pilot lose all visual ground references, the relative motion of swirling dust and debris can cause an extremely disorienting illusion of drift in the opposite direction of the dust movement. In the worst conditions, brownout is not a question of "if," but "when." The "if" is a given, while the "when" is a factor we still have some control over, depending on the approach technique used. That technique is the subject of this article.

It is important to understand that the dust generated during the landing phase does not cause a true brownout until the vortices cycle the lion's share of dust through the rotor system. With that said, if the pilot can be in a touchdown position before that point, their landing should be much safer. But to get to that point, the pilot must understand the direct correlation between the aircraft's angle of approach and the rate of descent as well as how it applies to the ground roll/run following touchdown.

It is best explained this way: At one extreme, we can use a shallow approach angle whereby our airspeed is higher (with a planned touchdown at or slightly above effective transitional lift), our rate of descent is very low and our ground roll/run is long. That approach is relatively easy to master but has its place only when landing to relatively flat, unobstructed areas. For illustrative purposes only, let us say that the other extreme is a

> "**KNOWING THE SURFACE WIND** was always so important to me that in times where **TRUSTED INDICATORS** of surface wind **WERE ABSENT** (trees, dust, smoke, water ripples, etc.), I went through the effort of **GENERATING MY OWN WIND INDICATOR.**"

90-degree vertical approach angle (straight down). This theoretical approach would have to use zero airspeed along with a very high rate of descent but would result in zero ground run. It would also be extremely difficult to perform, requiring a perfectly timed decelerating pitch-pull just prior to touchdown. (Again, this example illustrates one extreme end of the spectrum for argument sake only.)

Now let us discuss the point between these two extremes whereby the pilot should be able to execute a controlled dust landing with minimum ground roll/run to most any landing area. Over the years, as an instructor pilot/standardization IP, training others and executing thousands of dust (and whiteout) landings, I came to the conclusion that the steep side of a normal approach worked best when landing to the dustiest landing zones. While this type of approach does require a higher level of skill, with just a bit of training, any aviator can master it.

Approaches using the steeper approach angle do involve a higher rate of descent than that of a normal approach, but the rate of descent is still far from dramatic. In addition, while the brownout condition occurs with less warning using the steeper approach, it also reduces the opportunity for the dust to cycle through the rotor system prematurely. This substantially decreases the likelihood of a complete brownout before the landing is assured. Using this technique, the pilot should maintain the rate of descent until in a position to land and then apply a sufficient amount of collective to smoothly arrest the descent for a normal touchdown. This technique requires more critical timing, but the benefits become immediately apparent when landing to unimproved, dusty landing zones. The approach angle and properly timed collective application not only reduces the ground roll/run, it also allows the pilot to see the landing area for virtually the whole approach.

The confidence to perform a dust landing with this type approach comes only through repetition with the benefit of a more experienced pilot or IP on the other set of controls. Most of this training can take place in a non-dusty area to reduce wear and tear on the aircraft. The "final exam," however, must be in true brownout conditions. Only then can aviators know that their skills are up to the task.

Surprisingly, I have noticed many aviators ignoring the wind when determining their landing direction. Forgive me for stating the

obvious, but this cannot be overemphasized: tailwind landings always result in higher ground speeds or, more importantly, earlier brownouts. And remember, the declaration, "Wind calm," does not always mean there is no wind. Just a few knots of wind can dramatically affect the results of the dust landing. This can be validated by experimenting with tailwind and headwind dust landings under reported light wind conditions. The resulting ground speeds necessary to avoid premature brownout during light tailwinds are eye-openers.

Knowing the surface wind was always so important to me that in times where trusted indicators of surface wind were absent (trees, dust, smoke, water ripples, etc.), I went through the effort of generating my own wind indicator. You can also do this by making a go-around in a dust area away from your planned LZ. By observing the path of the subsequent dust cloud, you can then accurately determine the wind direction for use in your approach decision.

Formation landings add a measure of risk due to the increased chance of collision during the landing or go-around phase. Collective training is essential to ensure that individual crews operate as one during their formation landings as well as knowing how to safely execute a go-around in the dust cloud. While the landing techniques for formation aircraft are the same as those for single-ship operations, the lead ship sets the tone for all aircraft in the formation as they mimic lead's approach angle, speed and touchdown braking. In addition, the formation should be stacked down so the trail aircraft touches down first. This eliminates the possibility of kicking up dust that could obscure the other chalk's landing points and allows all the aircraft ahead to land in relatively clean air. All other chalks then land in succession, with the lead aircraft touching down last.

As the old adage states, "Takeoffs are optional; landings are mandatory." Until the technologies come along that allow our aviators the visual references necessary to safely hover and land in brownout conditions, the application of proper approach and landing techniques is ultimately vital to the successful outcome of the mission. Fly safely!«

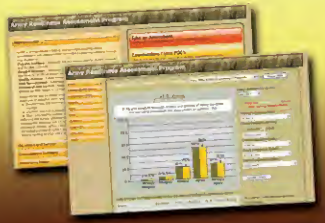


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On the Run

JOE MACFADDEN, PH.D.
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U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

As I stepped outside, I was surprised how cool it was for an early morning in May. The weather this time of year was usually very warm and muggy. For any runner, when it's muggy outside, breathing difficulty is one of the biggest challenges. On this particular morning, the skies were overcast and the temperature was perfect for a new route I'd chosen to run. A close friend told me about the route, which had very little traffic in the early mornings. With a good mixture of hills and flat surfaces, this was sure to be a great alternative to my old route.

> **"LIKE VEHICLE OPERATORS,** pedestrians must **BE PREPARED** for anything **AT ANYTIME."**

It was nearly 6 a.m. and the sun was peeking over the treetops. The only sounds were my sneakers pounding the pavement and birds chirping as they flew overhead. It was definitely a peaceful way to start the day. The secluded country road in south Alabama was exactly as described — very hilly and desolate. In fact, I was nearly 20 minutes into my run before I saw the first car.

The pavement was smooth and seemingly free of potholes, making it an ideal place for future runs. Then I approached a sharp left-hand curve located on a downhill slope. Should a vehicle appear, I feared the driver might not see me. I asked myself, "Should I cross over to the opposite lane or abide by the rules of the road and remain running against traffic?" Since I'd only seen one car up to this point, I decided to continue on my path and run against traffic. As I neared the curve, I knew the potential risk of not being detected was greater since I also couldn't see beyond it. Still, I thought it was best not to cross over and continued to run.

When I reached the curve, my fear of an oncoming vehicle was justified. Out of nowhere, a pickup truck came barreling around the corner. As I quickly moved off the road to prevent myself from being struck, the driver swerved into the opposite lane. Apparently, he was just as surprised to see me. Fortunately, an accident was prevented — but only because I was a defensive runner and prepared myself for a potential risk.

All too often, vehicle operators fail to plan for a pedestrian on the road. When one is spotted, the operator is usually startled. Unfortunately, many motorists are preoccupied with changing the station on the radio, singing along to their favorite song or talking or texting on a cellphone instead of doing what is expected of them — focusing on driving the vehicle.

Much like the operator of a vehicle, a pedestrian also has responsibilities. To be responsible behind the wheel, drivers must pay attention to their surroundings at all times, abide by traffic laws and limit distractions as much as possible. Like vehicle operators, pedestrians must be prepared for anything at anytime.

Here are some tips to help keep pedestrians safe whether walking or running:

Walking

- When crossing the street, use designated crosswalks.
- Establish eye contact when crossing the street. Never assume a motorist sees you.
- Walk on sidewalks or in designated walking areas. In the event sidewalks aren't available, walk facing oncoming traffic.
- Dress to be seen, especially if you are walking at night.
- Never drink alcohol and make the decision to walk home. While walking under the influence may seem safer than driving, you are still putting yourself and others in danger. Instead, call a taxi or a sober friend to take you home.

Running

- Be familiar with the route and be attentive to your surroundings at all times.
- Consider running only in designated areas for runners.
- Obey all laws for pedestrians.
- Do not use earphones or earbuds while running in areas not designated for runners/pedestrians.

Most importantly, always walk or run defensively. As a pedestrian, you may think you have the right-of-way, and many laws may support this notion. However, some motorists may not feel the same way.«

JUST A STONE'S THROW

MAJ. JOHN DZIECIOLOWSKI
Operational Support Airlift Company
Army National Guard Bureau
Fort Belvoir, Va.

If it weren't for my helmet, I'd either be dead or a vegetable in the care of my family for the rest of my life.

The outside temperatures were still in the 30s when I cranked up my bike on my driveway. If I'd stopped long enough to think about it, I would have realized this was a time to take things very carefully on my bike or, maybe, opt for four-wheeled transportation. Not really considering the dangers, I rolled the throttle, let out the clutch and turned left into the street in front of my house. That's when the fun began.

My cold tires had barely hit the chilly street when my bike started to slide out on the low side (the bike's rear end slid to the right).

There wasn't time to put my foot out, so I countersteered and gave it some gas. The bike stood straight up and then flipped over to the right (typically referred to as a "high side" by riders), slamming me into the pavement.

Although I was only going 5 mph, my bike tried to bury me six feet underground. I immediately got up with my "bell" rung, started the bike and rode it back to the garage to put it away. I called my wife and told her what happened. She had to shout at me to stop talking and told me I'd just repeated the same story three times. My new Scorpion helmet was destroyed, but at least my skull was still in one piece.

> **"I'M A FIRM BELIEVER** that if you're not **WEARING A HELMET**, you're an idiot and, **SOONER OR LATER**, you'll prove the **DARWIN PRINCIPLE."**

After telling my flight surgeon and emergency room doctor about my repetitive storytelling and listening to a couple of drunk-sounding messages I'd left my boss, they felt I should have a CT scan. The results showed I was good to go, suffering only a mild concussion and some soft-tissue damage to my neck, back, ribs, legs, shoulders and wrist.

That morning I proved to myself that helmets work. Were it not for mine, my brain would have been splattered all over Hillside Road just a stone's throw from my home.

I'm a firm believer that if you're not wearing a helmet, you're an idiot and, sooner or later, you'll prove the Darwin principle. If you're not smart enough to wear a helmet, then I can only guess that you don't need or want to live.

Be smart when you get on your bike and wear your helmet. It's your best guarantee of living to ride another day.«



Don't Let FROST BITE Your Equipment



CHIEF WARRANT OFFICER 4 MARC ASSUMPCAO
Ground Directorate
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

During the winter, driving becomes more hazardous, and extreme weather can take its toll on our vehicles and drivers. Taking appropriate steps such as conducting by-the-book preventive maintenance checks and services and applying risk management before hitting the road could save you from breakdowns and potentially dangerous situations.

Climate changes not only affect us, but also have an impact on our Army vehicles and equipment. Reliable transportation is vital to keeping Soldiers safe and accomplishing missions. Soldiers and leaders must realize highways and roads can quickly become slick and treacherous during winter.

As road conditions deteriorate, drivers shouldn't overreact with quick starts, turns and stops. When starting, drivers should accelerate slowly while keeping the front wheels pointed straight ahead. They should also keep their speed down and increase following distances behind other vehicles. A four-second gap or more is a good interval on a slippery road. Applying brakes with steady pressure may prevent locked wheels and skids. If the vehicle begins to skid, drivers should lightly turn into the skid and ease the foot off the gas pedal until they regain control.

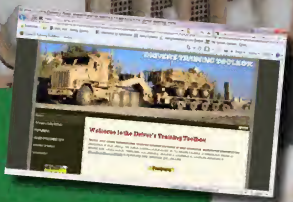
Another important factor to consider before entering the winter season is vehicle preparation. Vehicle operators need to keep assigned equipment in proper running condition throughout the colder months. Vehicles should be winterized around September or early October — before cold weather sets in. During the winter, not only should vehicles be kept fully mission-capable, they also need to be winterized in an effort to avoid inconvenient or dangerous situations while traveling in inclement weather. The last thing a driver needs is a vehicle that breaks down in harsh winter weather. No one should expect vehicles to operate properly without proper PMCS.

As nearly any driver can attest, the cold months can be quite hard on Army vehicles. Not only does an engine require special attention to get it purring in freezing temperatures, the exterior and other components can take a beating as well.

Although Army vehicles are designed to operate well in all temperatures, take the following measures before the winter weather arrives:

Perform PMCS. Conduct the before, during and after





DID YOU KNOW?

Through proper understanding of winter driving and vehicle operations, the Army will achieve the standard of accident reductions in our formations. With volumes of information and resources accessible in the Driver's Training Toolbox, every Soldier in the Army has the tools readily available to drive and complete the mission safely. Visit the Driver's Training Toolbox at https://safety.army.mil/drivertrainingtoolbox for more information (AKO login required).

checks as prescribed by the vehicle's technical manual. Ensure scheduled maintenance is performed in accordance with the vehicle service intervals.

Check engine coolant. Make sure the recommended coolant has the proper mix of antifreeze and water. A coolant system is not only designed to keep the engine from overheating or freezing, it's also responsible for protecting it against corrosion.

Check oil. Refer to the equipment TM for the vehicle-specific oil level and viscosity. When the outside temperature changes, it will influence the internal engine temperature, so make sure to use the proper oil for the conditions.

Check battery. Have the battery checked by maintenance personnel. Also, during PMCS, ensure the battery connections are free from corrosion. A vehicle battery can die without notice. During extreme winter temperatures, a battery's life may be reduced by 30 percent.

Check lights, defroster and heater. Ensure all components are fully operational.

Check tire tread depth. Ensure the depth is within the measurement prescribed by the TM and tires are serviceable to avoid hydroplaning or loss of control.

Check the tire pressure. Make sure to inflate tires with the proper PSI listed in the TM. Tire pressure is especially important during the winter, as a properly inflated tire will help guarantee better traction in wet, snowy conditions.

Check brakes. Ensure the brake lines and hoses are serviceable and brake fluid is at the proper level.

Check windshield wiper blades and fluid. Check the condition of windshield wiper blades and replace worn blades before driving. Also, check and fill the wiper fluid reservoir. Limited visibility while driving during winter months can be frustrating. Precipitation and salt buildup on the windshield can wreak havoc while driving in winter weather.

Check basic issue items. Ensure the BII inventory is complete and all items are in the vehicle during operations. Components of BII are designed to aid personnel during emergencies.

Inspect tire chains. Ensure they are serviceable and crews are trained on how to properly install them.

Carry an emergency kit. Additional items such as gloves, ice scraper, windshield washer fluid, jumper cables, first-aid kit, snow shovel and flashlight will assist during emergency situations.

Don't be overconfident. Whether the vehicle is a four- or two-wheel drive, both will slip on ice, so drivers must be extra careful.

Check road conditions. Know the difference between conditions. Vehicle operations may start out as GREEN or AMBER, but could change to RED or BLACK during your mission.

Along with these tips, it's imperative drivers heed the "warning" and "caution" statements listed in the vehicle's TM. Prior planning, winterizing vehicles and applying good habits are all key components of safe driving habits. If you're a driver or maintainer, don't let frost bite your equipment!

ARMY COLOR CODES FOR ROAD CONDITIONS

GREEN: Normal driving conditions exist on post. Roads are clear and dry.

AMBER: Cautionary driving conditions exist on post. Roads are very wet or have ice or snow sticking to overpasses, bridges or intersections.

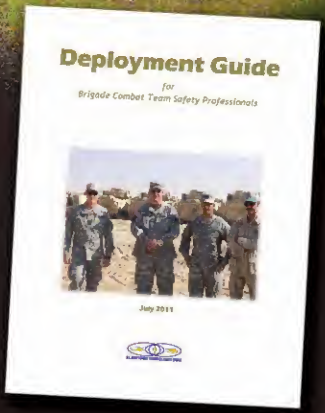
RED: Hazardous driving conditions exist on post. Ice or snow is sticking to most road surfaces. Heavy precipitation and/or high winds may limit visibility. Government vehicles should only be used for mission-critical operations through coordination with DOL.

BLACK: Extremely hazardous conditions exist with life-threatening driving conditions. All roads are covered with ice or deep, unplowed snow. Heavy snowfall and/or high winds causing low visibility is occurring. Only police, fire, medical and DPW equipment may be dispatched. TMP buses may be dispatched to pick up Soldiers in the field who are exposed to extreme cold that could impact life, health and safety. All other government vehicles will be restricted from movement unless authorized by DOL (mission critical). DPW workers will be allowed to enter the installation and conduct maintenance missions.

Editor's note: The criteria for road conditions vary by installation. Be sure to check with your installation safety office for local road condition color codes.

You don't have to reinvent the wheel.

When preparing to go downrange, check out the Deployment Guide for Brigade Combat Team Safety Professionals for valuable lessons learned, resources, tools and other useful information. While developed for BCT safety professionals, anybody can use this deployment guide. Visit https://safety.army.mil/deploymentguide to download or order a DVD copy of the guide.



U.S. ARMY ARMY STRONG

U.S. ARMY COMBAT READINESS/SAFETY CENTER
https://safety.army.mil

ARMY SAFE IS ARMY STRONG



POSITIONED FOR LIFE

STAFF SGT. JOHN M. DUPREE
B Company, 209th Aviation Support Battalion
Kandahar, Afghanistan

Editor's note: In recent years, a number of Soldiers have been killed when they stopped to render assistance at accident scenes and were struck by passing motorists. It is important good Samaritans protect themselves in these potentially dangerous situations.

I was in Germany, traveling on Highway 45 from Frankfort to Miltenburg, when two speeding cars collided in front of me. From the impact, I was sure the occupants in at least one of the cars were going to be badly injured. The wrecked cars ended up on the backside of a curve, where they blocked most of the road. I stopped and got out to check the passengers in both vehicles. Amazingly, they were all OK. Then I heard another driver who'd stopped to help yell, "Watch out!" as a car went flying through the crash site, barely missing me and one of the crashed cars.

At that point, I decided someone needed to take charge of the scene. I started by placing two people in the curve, one 150 meters ahead of the curve and the other in the middle of the curve to slow down traffic. That way we could safely help the accident victims until the police and emergency services personnel arrived to take over the scene. I also put out warning triangles on the road. Having those in your vehicle is a requirement in Germany.

It had been a while since I'd called emergency services, so I asked a local national driver to call in the accident. Perhaps there'd been a misunderstanding because of the language barrier. He reported the accident again and gave clear directions to the accident location. I then returned to try to comfort the passengers so they wouldn't go into shock. I didn't want to move them or let them drink anything because it might harm them.

About 15 minutes later, the emergency services crews showed up. It was another 20 minutes before the police finally arrived and took charge of the accident scene. They asked me to hang around and provide information on what happened. The following Monday, I met with an investigator to recap the events of the accident. The police captain said it was very clever to place the two people in the curve to avoid additional accidents. He explained position was everything because drivers approaching through the curve couldn't see the accident in time to avoid it. After the interview, he thanked me several times for helping at the accident scene and asked me to come back that evening.

When I got off work, I went back to the police station. When I got there, I was met at the front door by the police chief. He then took me into his office and gave me a badge from the local police station and a T-shirt. Several members of the police staff also took me out to dinner. I was very grateful for the appreciation they and the police chief showed me. In my heart, I really felt it was my civic duty to do the things I did.«

HELP – BUT DON'T GET HURT

Sometimes, Soldiers who stop to render assistance at accident sites wind up being victims of other drivers. From October 2009 through May 2012, three Soldiers were killed and another was injured when they were struck by other vehicles after stopping to help at an accident scene.

In Germany, where this accident happened, drivers are required to have warning triangles that they can place on the highway to alert approaching drivers. However, Soldiers don't have to be in Germany to take advantage of the protection these triangles can provide. Commercial warning triangles are available at many auto parts stores in the United States.



Risk vs. Reward

CHIEF WARRANT OFFICER 2 ZACH MUNAR
C Troop, 6th Squadron, 6th Cavalry Regiment
Fort Drum, N.Y.

Editor's note: Effective communication and interaction between crewmembers was vital in the success of this mission. Every crewmember in each aircraft had a critical role to fulfill. It doesn't matter if a mission is in combat or training; a flight crew must always communicate with each other. Pre-mission and in-flight planning during multiship operations is now the standard in combat, and leaders must get involved in the planning and execution of all missions.

My Scout Weapons Team was in Afghanistan supporting a convoy delivering supplies from north of Asadabad to Forward Operating Base Bostick in the Konar River valley. We'd finished refueling in Asadabad and were en route back to the convoy, which was about halfway to FOB Bostick, when Mad Dog 16 called for immediate air support for troops in contact. Mad Dog 16 was a security element posted along a road that was a known enemy hot spot. Their location was on the west side of the Konar River, which runs down the middle of the valley.

After conducting our fighter check, Mad Dog 16 reported they were in a two-way firefight. The enemy was using machine-gun fire from the rocks at the bottom of the hill on the east side of the river. Mad Dog's convoy consisted of four Mine Resistant Ambush Protected vehicles, and all friendly elements were secure inside the vehicles. We immediately confirmed the convoy's location and asked Mad Dog to mark the enemy location with a single .50-caliber tracer round because each vehicle gunner was firing at a different location on the hill. He responded, "Target marked with a 20-round burst."

I was in the lead aircraft and identified the target. The air mission commander in the rear aircraft cleared a suppression mission on the enemy location. As lead, we rolled in for our first inbound run and engaged the enemy at about 1,500 meters and fired two high-explosive rockets and about 150 rounds of .50-caliber ammunition. We broke left off the engagement at about 800 meters, placing my trail aircraft in perfect position to fire just as we broke. As we broke left, Mad Dog told us the enemy fire had shifted from his position and he thought the fire had directed toward the aircraft. Seconds later, our trail ship called, "Taking fire … taking fire!"

Coming around, we barely picked

him up as he broke. We called inbound to cover his break and fired our last five rockets at the enemy as fast as we could. As my right-seater switched to fire .50-caliber rounds, two incoming tracers flew by the right door, missing us by 10 feet. I then saw three tracers strafe left to right about five feet above the left side of our rotor disk. I yelled, "Taking fire! Taking fire!" and my right-seater broke immediately. I got on the radio and told trail we had just taken fire, but we had not been hit and were pushing off the target. I knew we had gotten too close trying to cover trail as he was taking fire. I estimated we were only 400 meters from the target when I observed the tracer fire.

We were then flying trail behind our air mission commander, so we executed a lead change. Back as lead, we set up for another engagement. This time, before turning inbound, we made sure to brief the distance we would break to remain outside the enemy's range. We knew we were running low on ammunition and had about one engagement left. Mad Dog 16 reported he was still taking fire from the same location, but the volume of fire was significantly less. I told him we had only enough ammunition for one more engagement and he requested we go "Winchester" before going to the FARP. We set up for our final engagement and briefed that we would engage at 1,800 meters and break at 1,000 meters. Both lead and trail conducted the engagement without observing fire from the enemy. Mad Dog 16 reported all enemy fire had stopped. We then broke station for refuel at Asadabad.

While at the FARP, we looked for battle damage and, thankfully, found none. After refueling and rearming, we departed north to check on Mad Dog again. He reported he had not taken any more fire since we left. We continued the mission with the convoy to the north and then departed.

Lessons Learned

No matter what situation you find yourself in, you must always conduct an analysis of risk verses reward. Mad Dog 16 was in danger, but did we put the aircraft in more danger than necessary? What was the convoy's risk level when under fire from 800 meters with all its troops mounted in their MRAPs? These type questions must be addressed before you choose a specific course of action. Preferably, you have already discussed possible situations like this and others in pilot, mission and team briefs before you pull pitch. Risk and reward analysis should be a deliberate current mission focus of every brief. Granted, every situation is different and may present new risks, but I believe a foundation in risk analysis will enable the individual to make better on-the-spot decisions.«



GRAT
GROUND RISK ASSESSMENT TOOL
https://safety.army.mil

GRAT is easy to use and provides users with accident hazard and control information and assists them in producing an automated CRM worksheet (DA Form 7566) for their mission, task or activity. Users can save, e-mail, edit or print the worksheet.





Up the Creek

LT. COL. TERRY KIEHN
Joint Task Force Headquarters
Tennessee Army National Guard
Nashville, Tenn.

It was a Saturday afternoon and the weather was wonderful. The sun was shining and the temperature hovered at 65 F. I'd finished mowing my yard and put up my tractor and push mower when I decided to ride my four-wheeler in the creek behind my house.

Normally, I ride down my property line to an area where it's easy to enter the creek bed. This afternoon, however, I decided to enter the creek where it ran behind my house. The banks were steeper, which made getting into the creek a bit more challenging. However, that wasn't a real issue for me. I never ride fast because I like to take in the natural beauty of the day.

Despite the heavy rains changing the creek's course several times each year, it's always an easy ride. On this day, I came upon some downed trees and the only way around them was to go up the bank and turn sharply to the left to go back down into the creek bed. As I made the left turn, I saw a washout just as my left-front tire went into it. The rest seemed to happen in slow motion as my left-front tire slipped and my four-wheeler and I began rolling. I looked at the water and thought, "This can't be good." I hit the water, and the Yamaha — all 600 pounds of it — rolled on top of me. The water was cold, but I didn't notice it at that moment.

The four-wheeler pinned me under the water. All I could think about was pushing this thing off me and getting some air. I grabbed everything I could, trying to move the Yamaha. I grabbed the exhaust and felt my fingers burning — but I didn't care — I just wanted to get free of the four-wheeler. Finally, I rolled it off me and it landed upright in the creek.

Although the water was only 2½ feet deep, with the four-wheeler on top of me it seemed like it was much deeper. As I sat on the bank regaining my composure, I thought about how badly this could have gone.

GEAR UP!

While you can't avoid every bump or bruise that might come your way when riding an all-terrain vehicle, you can minimize them by properly gearing up before the ride. The ATV Safety Institute recommends wearing the following:

- **Helmet: Department of Transportation compliant and preferably a full-face design. Protects against injury and discomfort from windblast, cold, noise and flying objects. The most important piece of protective gear you can wear.**
- **Eye Protection: Motorcycle goggles worn outside the helmet. Protects against injury from flying debris and reduces dust, which irritates your eyes and impairs vision.**
- **Riding Jersey: Can be cotton or synthetic. Some synthetic materials wick away perspiration to keep you cool. Some include light elbow pads. Jerseys help protect you from cuts and scrapes along with exposure to sunburn, windburn, dehydration and hypothermia. Brightly colored jerseys make you easier to see on the trail.**
- **Elbow Guards: Slip-on elbow guards may be worn over or under riding jerseys to provide extra protection.**
- **Gloves: Specially designed off-road motorcycle or ATV gloves protect your hands from flying debris and trailside hazards such as branches and bushes. They also provide a more secure grip on the handlebars and protection in case of a fall.**
- **Riding Pants, Hip Pads and Knee Pads: Special pants made of leather, denim or synthetic materials. Hip and kneepads may be built-in or available separately.**
- **Riding Boots: Special motocross boots made of thick leather with steel reinforcements. Get one size larger to accommodate thick socks to cushion and wick away moisture. MX boots are the best protection against foot and ankle injuries.**

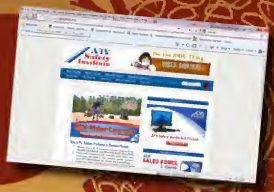
I checked myself for broken bones and bleeding. My back hurt from where I scraped it, and my ankle throbbed from where the four-wheeler had rolled over it. I was relieved to find I wasn't bleeding and concluded I'd been very lucky. I thanked the Lord I was OK.

My cellphone was wet and wouldn't work. I'd been riding by myself and realized it might be evening or late that night before anyone would look for me. I realized how stupid I'd been to go four-wheeling alone without the proper personal protective equipment or telling anyone where I was going and when I would return.

Things can happen in a split second that can leave you with a lifetime of consequences. This was a close call for me — one that will change the way I think about riding my four-wheeler in the future. I never ride my motorcycle without wearing my PPE, and I should do the same when I'm on my ATV. I will also make sure someone knows where I am just in case I'm "late" for supper. Believe me, you'll never find me up the creek again without PPE and a plan!«

GOT SKILLS?

Are you new to riding ATVs or do you realize you need a few more safety tools for your kit bag? If so, help is just a click away. Check out the ATV Safety Institute at http://www.atvsafety.org/.



> "I **REALIZED** how **STUPID** I'd been to go four-wheeling **ALONE** without the proper personal **PROTECTIVE** equipment or telling **ANYONE** where I was **GOING** and when I would **RETURN**."



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NOTHING PROTECTS like a DEERE



CHIEF WARRANT OFFICER 2 MATTHEW R GERLITZKI
3rd Battalion, 2nd Combat Aviation Brigade,
General Support Aviation Battalion
Camp Humphreys, Korea

I didn't fully understand how valuable crew coordination was until one horrible night in Afghanistan. Crew coordination is sometimes one of those intangible skills we take for granted or don't believe is important until our lives are on the line. I can attest to its significance from flying a typical formidable combat mission supporting a task force in one of the most kinetic valleys in eastern Afghanistan. There are not enough words to explain how terrible this experience was — not just for me, but also for the crew, Soldiers and civilians onboard.

This particular forward operating base was tucked away against the far end of the valley floor, positioned in a way offering only one reasonable approach and departure path for a fully loaded CH-47. Considering the surrounding terrain and civilian population, one could only hope for the best outcome for any given mission.

My buddy, Chief Warrant Officer 2 Brown, and I decided to fly higher than usual on the en route portion of the flight to mitigate the risk of a known Taliban person-of-interest site armed with a DShK 12.7 mm (.50 caliber) machine gun and rocket-propelled grenades. This required us to conduct a circling-type approach to the FOB to lose sufficient altitude and land. On short final, I felt and observed the nose pitch down as an RPG impacted the bottom of the aircraft.

The tail crew chief immediately announced that the onboard John Deere utility vehicle, also known as a Gator, had exploded and was on fire. The flight engineer, without hesitation, instructed the pilots to land immediately. Simultaneously, I initiated an emergency descent while Brown made the last radio transmission by contacting Joker, our Apache escort, about the emergency. Upon landing, I looked out the left window and witnessed the rotor blades striking the rising terrain, whereby I instructed all crewmembers and passengers to exit the main cabin door. After Brown and I conducted an emergency engine shutdown and zeroed the avionics, we quickly egressed and met everyone for a head count and injury assessment. Fortunately, all personnel were accounted for with only a couple of minor shrapnel injuries.



After a brief moment, we made it inside the FOB by climbing in a narrow window while Joker eliminated the threat. Brown updated the local commander while I coordinated with the quick-reaction force and rescue assets via secure radio.

This is just a short description of the events that happened on that dreadful night. I personally believe the only reason anyone survived this incident was due to the placement of the Gator in the cabin of the aircraft and skillful application of crew coordination. The RPG had pierced the skin of the aircraft and exploded when it struck the underside of the Gator. Hence, the Gator absorbed the explosive force of the RPG rather than severing the driveshaft and/or damaging the rotor blades. The latter would have resulted in a catastrophic loss.

Crew coordination was paramount for the survival of everyone on board. Additionally, I can't stress the importance of evaluating crew mix for every mission, as well as implementing a thorough and complete risk management assessment.«



CREW COORDINATION ELEMENTS

1. **Communicate positively.** Good cockpit teamwork requires positive communication among crewmembers. Communication is positive when the sender directs, announces, requests or offers information; the receiver acknowledges the information; and the sender confirms the information, based on the receiver's acknowledgment or action. The receiver must anticipate what the sender says or wants and listen carefully. Either crewmember must have no doubt what is said or meant before taking action.
2. **Direct assistance.** A crewmember will direct assistance when he cannot maintain aircraft control, position or clearance. He will also direct assistance when he cannot properly operate or troubleshoot aircraft systems without help from the other crewmembers.
3. **Announce actions.** To ensure effective and well-coordinated actions in the aircraft, all crewmembers must be aware of the expected movements and unexpected individual actions. Each crewmember will announce any actions that affect the actions of the other crewmembers.
4. **Offer assistance.** A crewmember will provide the requested assistance or information. He will also offer assistance when he sees another crewmember needs help.
5. **Acknowledge actions.** Communications in the aircraft must include feedback to ensure crewmembers correctly understand announcements or directives.
6. **Be explicit.** Crewmembers should use clear terms and phrases and positively acknowledge critical information. They must avoid using terms that have multiple meanings such as "Right," "Back up" or "I have it." Crewmembers must also avoid using indefinite modifiers such as, "Do you see that tree?" or "You are coming in a little fast."
7. **Provide aircraft control and obstacle advisories.** Although the pilot is responsible for aircraft control, the other crewmembers may need to provide aircraft control information regarding airspeed, altitude or obstacle avoidance.
8. **Coordinate action sequence and timing.** Proper sequencing and timing ensures the crewmembers coordinate their actions.

The Trail LESS TRAVEL

CHAD GARDNER
Joint Munitions Command
Rock Island Arsenal, Ill.



For people who enjoy the outdoors, hiking is a great way to get out into nature. I've been an avid hiker for more than 12 years. In the woods, a person can walk for miles and hear nothing but the sounds of the wind, birds and animals scurrying around. Weather plays a big factor in how a hiking trip will go; a great, warm, sunny day is optimum hiking weather. The problem with weather conditions is they are, at times, unpredictable. Most hikers think ahead and prepare for any type of weather. This story involves a good hike gone south and the struggle to make it up a mountain and back to civilization.



It was a cool, cloudy day in the fall of 2008, and I was tired of the hustle and stress of college. Needing a break from my studies, I decided to visit a well-known hiking spot nestled deep in the Boston Mountains of northern Arkansas. The trail started at the top of a mountain and ran for 10 miles down and around the Buffalo River and back up the mountain. The weather forecast called for cooler temperatures and a chance of snow, so I figured starting early would be my best bet.

About five miles into my trek, I decided to stop and eat lunch by a river. I thought about how perfectly the trip was going. That's when I noticed dark clouds rolling in and the temperature starting to drop. I knew I needed to head back. I never imagined it would be such a challenge.

The problem with this hiking trail and the mountains was the angle of them. The Boston Mountains in this area are a set of cliffs that span more than 50 feet. Staying on the trail the entire time, I got to the first set of cliffs as the snow began to fall. By the second set, I was crawling on the ground. I got up and over the cliff and started up the main hiking trail when I suddenly slipped. The next few moments were a blur, but I remember falling and sliding down about 30 feet to the base of the cliff. Any higher and I knew I would've slid right off the face of the cliff.

It had taken me two hours to get down the mountain; but on the way back up, it took twice as long. I eventually reached what I thought was the end of the trail, only to find it led to another trail. I was getting concerned about getting back to my car. I knew I had to get out



DID YOU KNOW?

The National Park Service has many hiking trails scattered across the United States. Whether you're a beginner or an experienced hiker, here are some tips from the NPS that may make a difference in your next hiking adventure:

- **Let a responsible person know your route and return time.**
- **Always hike with another person. Keep your hiking party together and stay on officially maintained trails. Keep children in your sight when hiking — do not allow them to get ahead of you or fall behind.**
- **Carry a current park trail map and know how to read it.**
- **Carry two small flashlights or headlamps — even on a day hike. If you have trouble on the trail, darkness may fall before you can finish your hike.**
- **Take adequate water — a minimum of two quarts per person per day. All water obtained from the backcountry should be treated either by filtering or boiling.**
- **Carry a small first aid kit.**
- **Check the current weather forecast and be prepared for quickly changing conditions.**
- **Wear shoes or boots that provide good ankle support.**
- **Avoid hypothermia (the dangerous lowering of body temperature) by keeping dry. Avoid cotton clothing. Dress in layers that can be easily removed or added as you heat up or cool down. Carry a wind-resistant jacket and rain gear — even on sunny days!**
- **Don't attempt to cross rain-swollen streams; they will recede rapidly after precipitation stops and the wait may save your life! When crossing any stream more than ankle-deep, unbuckle the waist strap of your pack, wear shoes and use a staff to steady yourself.**

To learn more, visit the National Park Service's website at www.nps.gov.



> "... always **PREPARE** for the **WORST**, even if you **THINK** there **ISN'T** a **CHANCE** in the world something **COULD** go **WRONG.**"

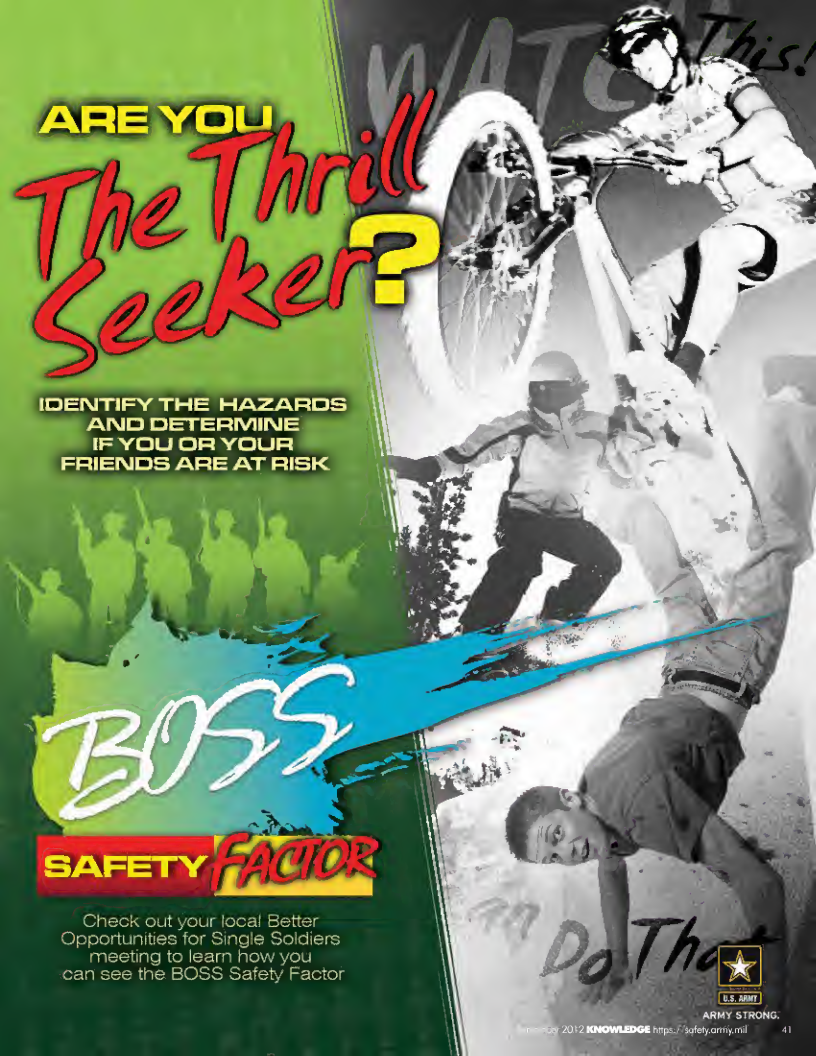
of the forest and back where I could get some heat. My nose and feet were wet with snow and I couldn't feel my hands. I was wearing dress gloves, not the thick, insulated type I should've been wearing.

Over the course of the next hour, I staggered alone on the mountain. Snow was piling up around me and I figured I would eventually just keel over and die. Finally, I reached a familiar forked tree and leaned against it. I knew where I was, but as I looked up, I noticed something large moving around the head of the trail. It looked like a dog, but as it moved closer, I realized a black bear now stood between my car and me!

My heart raced as I deliberated on how to get around the bear. Most bears can be scared off if you act aggressive and yell at them, so I began walking confidently toward the giant beast. I knew that if it saw me, I would have to wave my arms and yell loudly. Then, out of nowhere, an ear-splitting "BANG!" echoed throughout the mountain.

I immediately hit the dirt. Who fired the shot and where were they shooting? As I looked up, a forest ranger walked toward me as the bear barreled away into the woods. The ranger put me in his truck and took me back to his office to "talk." As I warmed up, he drilled me for an hour about the dangers of hiking alone. He covered a myriad of hiking safety topics, including preparing for camping and hiking, the importance of planning a trip, checking the weather ahead of time and maintaining energy with small breaks and snacks. He also told me that no matter how experienced someone is with outdoor activities, safety should always be the main priority.

I hope others can learn from my mistakes. First, never hike alone; always have someone with you who can go get help if something happens. Next, always prepare for the worst, even if you think there isn't a chance in the world something could go wrong. Make sure that when you hike, you carry two sets of weather gear so you're ready for rapidly changing conditions. Also bring along a first aid kit, rope and a small party horn or ballgame horn. A loud noise is more effective in running off dangerous animals than yelling and running at them. Finally, always leave markers on trees so you'll know how to get back. It's OK to hike the trail less traveled, just as long as you do so safely!


ARE YOU
The Thrill Seeker?
IDENTIFY THE HAZARDS AND DETERMINE IF YOU OR YOUR FRIENDS ARE AT RISK
BOSS
SAFETY FACTOR
Check out your local Better Opportunities for Single Soldiers meeting to learn how you can see the BOSS Safety Factor
U.S. ARMY
ARMY STRONG.

T-BONED But ALIVE

DANA M. HENRY
Carl R. Darnall Army Medical Center
Fort Hood, Texas



It was a cloudy day in September and my husband decided to run some errands. We'd only been married for a couple of days and were planning a permanent change of station move to Germany in the upcoming weeks. He jumped into his new Saturn, put on his seat belt, adjusted the mirrors and headed out to pick up my mother to take her to the grocery store. He was also excited as he left because we were planning to go out for lunch.

It was just starting to drizzle when he pulled out of the parking lot of our apartment building and headed up the street. When he got to the stoplight-controlled intersection four blocks down the street, the traffic light was green. As he entered the intersection, a police car going 60 mph slammed into his Saturn's passenger side. The impact sent his car out of control, and it hit a car on the other side of the street before coming to a rest in a front yard. When it did, two tires were completely ripped off their rims and the passenger-side door was nearly touching my husband's right arm. Fortunately, he was able to unbuckle his seat belt and jump out.

As it turned out, the police officer had received a dispatch alerting him to a grocery store robbery. The store was only a couple of blocks from his location, so he responded, speeding to get to the scene as quickly as possible. Unfortunately, he didn't turn on his lights and sirens as he ran the red light.

My husband went to check on the officer. He was sitting behind the steering wheel, clearly dazed but OK. My husband was still in shock at what happened and how his day had been so dramatically changed. The officer was also still in shock, unable to focus on anything else around him.

When the emergency services and police arrived at the scene, the paramedics rushed to the mangled Saturn, thinking they'd be administering life-saving procedures to whoever was inside. They were surprised when my

> "Because **HE** was **WEARING** his **SEAT BELT**, he **WALKED** away **FROM** the **CRASH** with **ONLY** some minor **BRUISES** where the air **BAG** deployed."

husband yelled, "I'm over here! There's no one else in the car, but it's smoking and you need to get away from the wreckage." My husband said the paramedic looked at him and said, "You must have been wearing your seat belt."

Because he was wearing his seat belt, he walked away from the crash with only some minor bruises where the air bag deployed. The police officer was also wearing his seat belt. He and my husband were both taken to a local hospital and later released with minor injuries. Had my husband not been buckled up, our honeymoon could've ended before it really began. Had the officer not been buckled up, his police chase could've ended with a funeral — his own. Something as simple as wearing seat belts made all the difference that day.

So what's it worth to you and those who love you to take a few seconds to buckle up? If you're not already doing it, try it. Give yourself a chance to live and find out.«



One Mistake

And Your Whole Life Can Change

Pvt. Karen Risser's life changed forever the morning of Sept. 29, 2008, when she lost control of her car on the way to drill. Even though the vehicle was totaled, she may have emerged from the accident unscathed. Unfortunately, she wasn't wearing her seat belt and will never walk again.

The simple choices we make every day can have the greatest impact on our lives. No one knows that better than Karen and her family — and they've shared their story in hopes of reaching other Soldiers. To view it, click the QR code to the right with your smartphone's QR code reader app. The video can also be found on the USACR/Safety Center video page at https://safety.army.mil/Risser-Story.



AVIATION

UH-60L



CLASS A

- Two personnel were injured when the aircraft crashed while conducting a passenger drop-off in a nonstandard helicopter landing zone.

C-12R



CLASS C

- The crew experienced a severe updraft/microburst during an instrument landing system configuration for landing. The aircraft initiated a nose-up, uncommanded climb, resulting in a loss of airspeed. The crew recovered and negotiated wind turbulence and landed without further incident. Both engines suffered overspeed conditions.

UAS

RQ-7B



CLASS C

- The unmanned aircraft failed to ascend to prescribed altitude upon launch. The crew deployed the recovery chute when the UA descended below 400 feet above ground level. The UA made ground contact two kilometers from the landing strip, but within the training area.

- The crew experienced an engine failure just prior to touchdown. The UA descended to ground contact from about three feet. The Tactical Automated Landing System did not respond to input, and the UA veered off the runway. The UA incurred damage to the arresting gear and stake.

GROUND

Other



CLASS C

- Two Soldiers were injured when the General Services Administration vehicle they were traveling in was struck by a privately owned vehicle.

Personnel Injury



CLASS A

- A Soldier was killed and another injured from a presumed fall from a designated climbing site at a national park.

CLASS B

- A Soldier lost a portion of her thumb when a .50-caliber round exploded in her hand.

DRIVING

POV



CLASS A

- A Soldier was killed when he lost control of his speeding vehicle, which overturned several times and caught fire.

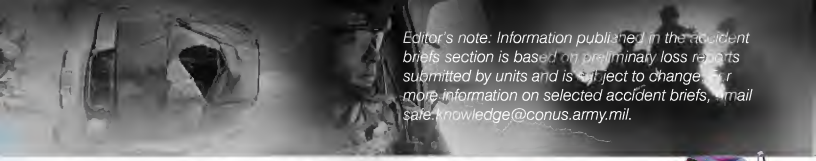


- A Soldier was severely injured when he attempted to pass a farm tractor turning left in front of him.

- A Soldier died when he was speeding in the oncoming lane of traffic and collided head-on with an approaching vehicle, also killing its driver.

- A Soldier was killed when he lost control of his vehicle, crossed the median and struck a tractor-trailer head-on.





Editor's note: Information published in the accident briefs section is based on preliminary loss reports submitted by units and is subject to change. For more information on selected accident briefs, e-mail safetyknowledge@conus.army.mil.

CLASS C

- A Soldier was injured when he was driving to morning formation and was rear-ended by another vehicle. The impact caused the Soldier's SUV to collide with another vehicle.
- A Soldier was injured when she turned at an intersection and her vehicle was struck by another motorist who violated right of way.



CLASS A

- A Soldier was riding his motorcycle when he lost control, went off the road and ultimately came to rest in an intersection. The Soldier was transported to a hospital, where he was pronounced dead.
- A Soldier died when he went wide in a turn, encountered loose gravel, hit a mailbox and was thrown onto the side of the road.
- A Soldier was killed when a motorist violated right of way and pulled into his path in an intersection.
- A Soldier lost control of his motorcycle and was killed when it left the road and struck a fixed salt bin on the side of the highway. The Soldier had been attempting to reenter his lane after passing a slower vehicle when the accident occurred.
- A Soldier riding a sport bike borrowed from another Soldier was killed when he struck a guardrail.
- A Soldier was killed while riding another Soldier's sport bike when he hit a raised center median and was thrown onto the ground.
- A Soldier died when he lost control and crashed in a curve, striking a telephone pole.
- A Soldier was killed when he pulled into the oncoming lane to pass a vehicle and struck a van head-on.



CLASS C

- A Soldier was hospitalized for two weeks and lost 60 workdays after he crashed and was thrown 100 feet from his motorcycle. The Soldier's injuries included bleeding of the brain and road rash to the bone on one knee. The Soldier's helmet came off during the crash. He had not completed Motorcycle Safety Foundation training.





Firearms Safety Techniques, an interactive site, is available for Soldiers, Family members and Civilians to learn about off-duty safe firearms handling. Visit the site for more useful firearms safety resources.

FIREARMS safety techniques

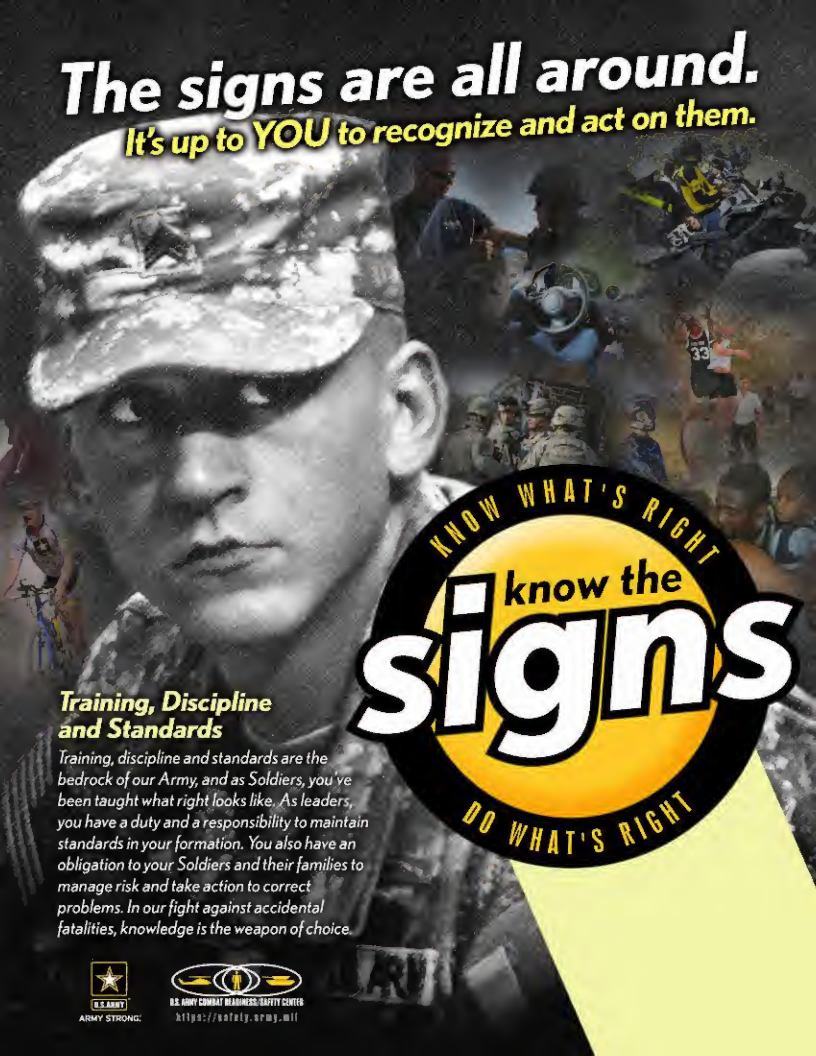
GIVE IT A SHOT!

Visit https://safety.army.mil/firearm-safety and get on target today


TAKE THE CHALLENGE,
LEARN THE LESSON.
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ARMY SAFE IS ARMY STRONG

The signs are all around.

It's up to YOU to recognize and act on them.



Training, Discipline and Standards

Training, discipline and standards are the bedrock of our Army, and as Soldiers, you've been taught what right looks like. As leaders, you have a duty and a responsibility to maintain standards in your formation. You also have an obligation to your Soldiers and their families to manage risk and take action to correct problems. In our fight against accidental fatalities, knowledge is the weapon of choice.

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